PNEUMOTHORAX FOLLOWING TRACHEOSTOMY AND ITS MANAGEMENT

K. Salil Kumar[1], P. Muraleedharan Nampoothiri[2], R. Suma[3], P. Renu[4]

Abstract : *Although pneumothorax is a known complication of tracheostomy, bilateral pneumothorax is comparatively rare. The case of such a complication is being reported here in a patient with a glottic carcinoma who underwent emergency tracheostomy and developed bilateral pneumothorax and its subsequent management is discussed.*

Keywords : Tracheostomy complication, bilateral pneumothorax

A 69 year old man presented with stridor to a local hospital and underwent emergency tracheostomy. Following the procedure his dyspnoea worsened and an endotracheal tube with cuff was inserted through the tracheostoma and patient referred to our emergency room.

On presentation he was dyspnoic with extensive surgical emphysema and minimal cyanosis. An emergency CT scan of thorax and neck showed a bilateral pneumothorax with collapse of lung, absence of any mediastinal mass and presence of a soft tissue density mass in glottic area with narrowing of airway. Surgical emphysema was noted in neck and chest wall with no evidence of haemothorax or pleural effusion.

The endotracheal tube was taken out and Portex No.9 tube introduced. Bilateral intercostal tube drains were put. Patient's ventilatory status improved markedly with PaO_2 climbing to 96 mm O_2. Drains were removed after a week. He was fully investigated and underwent a direct laryngoscopic examination 12 days later which showed a growth in left vocal cord, ventricular band, anterior commissure and subglottic extension via anterior commissure and involving the right vocal cord anteriorly. Both cords were fixed. A biopsy was taken and histopathology report came as squamous cell carcinoma – moderately differentiated. Follow up CT scan taken showed fully inflated lungs with mediastinal and subcutaneous emphysema persisting in neck, thoracic wall and upper abdomen wall and minimal (R) pleural effusion.

Patient was taken up for total laryngectomy and he recovered completely with no post-operative complications. He is taking oral feeds and now being trained for speech therapy and given radiotherapy.

DISCUSSION

Though pneumothorax is a known complication of tracheostomy especially in low tracheostomy, bilateral pneumothorax is comparatively rare. The complication is commoner in patients who are struggling, gasping or coughing during the procedure under local anaesthesia or when the apex of the lung is high in the neck. The condition is suspected

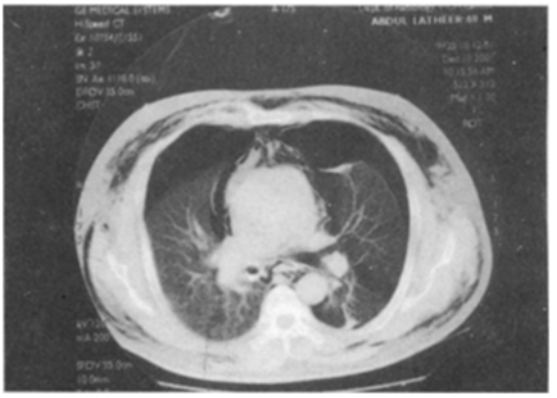

Fig. I: CT Scan showing bilateral pneumothorax.

Fig II : Follow up CT Scan showing fully inflated lungs.

Fig III : Laryngectomy specimen showing Left Glottic mass with sub glottic extension.

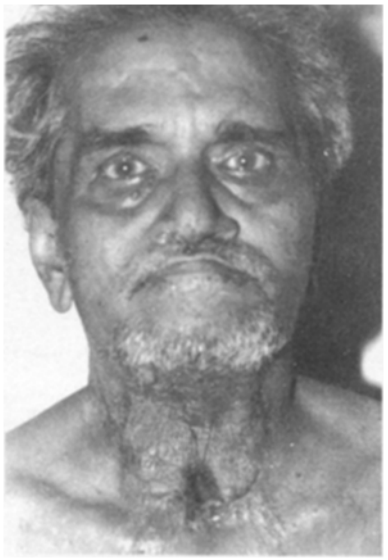

Fig IV : Patient after total laryngectomy

when the patient's dyspnoea does not improve after a tracheostomy and PaO_2 remains low. A chest radiograph or CT scan confirms the diagnosis. An intercostal drainage is usually necessary to relieve the condition.

After the general condition of the patient has improved, a definitive treatment for the primary pathology is undertaken – a total laryngectomy in this case of a stage III glottic carcinoma with subglottic extension.

This case is being reported for the rarity of a bilateral pneumothorax following low tracheostomy and its subsequent management.

REFERENCES

1. Glas. W. W, King O.J, Lui. A (1962) : Complications of tracheostomy. Archives of Surgery 85 : 56–63.
2. Stemmer.E. A, Claude Oliver, Carey J. P et al (1976) : Fatal complications of tracheostomy. American Journal of Surgery 131 : 288 – 290.

Address for correspondence

Dr.K.Salil Kumar,

Professor & HOD, Dept. of ENT,

MCH, Calicut, Kerala.